REMARKS

This Amendment is in response to the Office Action mailed September 26, 2006 in the above-referenced patent application.

Claims 1-16 and 40-65 are pending in the application, and stand rejected.

Claim 40 is amended herein, to correct a typographical error, support for which change can be found, for example, in original claim 40 and at page 4, lines 18-24 of the application as filed.

* * *

Claims 1-16 and 40-65 were rejected in the Office Action under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,656,221, citing the abstract and claims. Reference was also made to non-patent literature cited in a report; however, the cited copending application no. 11/154,208 is not seen to discuss the reference forming the basis for the rejection. In any event, Applicants respectfully traverse the rejection and request reconsideration.

The present invention relates to polyesters prepared in the melt phase to a suitable intrinsic viscosity, for example to at least 0.75 dL/g (independent claims 1, 51, and 66), or to at least 0.70 dL/g (independent claims 40 and 46), without the need, for example, of increasing the molecular weight after solidification from the melt.

In the aspect of the invention set out in claim 1, the invention relates to a melt phase process for making a polyester polymer melt phase product containing at least 100 ppm antimony based on the weight of the product comprising adding an antimony containing catalyst to the melt phase; polycondensing a melt containing said catalyst in a polycondensation zone; and before the It.V. of the melt reaches 0.45 dL/g, continuously polycondensing the melt in the polycondensation zone at a temperature within a range of 265°C to 305°C or at sub-atmospheric pressure or a combination thereof, in each case until the It.V. of the melt reaches at least 0.75 dL/g; wherein the polyester polymer melt phase product has a b* color of -5 to +5.

Applicants have discovered, as explained, for example, at page 1, lines 26-29 of the application, that *titanium* catalyzed polycondensation reactions in which the molecular weight is achieved in the melt phase results in polymers having an unacceptably high yellow color, as indicated by their high b*, and that, as seen for example in Table 1 of the present application and the accompanying description on pages 40-41, melt phase polymers made using even low levels of titanium catalyst exhibit b* values outside the claimed range. The use of antimony, in contrast, even at levels approaching some fifty times higher than the amount of titanium used, results in polymers having satisfactory b* values.

Further, in the aspect of the invention set out in dependent claim 5, the polycondensation reaction in the polycondensation zone is conducted in the absence of active catalysts containing titanium. Similarly, in the aspect described in dependent claim 6, the melt phase process is conducted in the absence of added catalyst compounds containing titanium.

In yet another aspect of the invention, set out in independent claim 40, the invention relates to a process for making a polyester polymer comprising polycondensing a melt in the presence of an antimony-containing catalyst to produce a melt phase product, wherein the reaction time of the melt between an It.V. of 0.45 dL/g to an It.V. ranging from 0.70 dL/g to 0.90 dL/g is 100 minutes or less. As explained, for example, at page 2, lines 25-29 of the application, the Applicants have discovered a means of obtaining a satisfactory intrinsic viscosity with a process having a reaction time which is shorter than that of titanium-catalyzed processes at low titanium catalyst dosages (to obtain a reasonable low b*) and low reaction temperatures, even though titanium based catalysts are known to be highly active. This is demonstrated in the results seen in Table 1 of the present application and the accompanying description on pages 40-41, already cited, in which quicker reaction times were achieved while obtaining satisfactory b* values.

In yet a further aspect of the invention, set out in independent claim 46, a polyester polymer melt phase product is provided having a degree of crystallinity of at

least 25% and an It.V. of at least 0.70 dL/g without solid state polymerizing the polymer, said product comprising antimony residues and having a b* color of -5 to +5 and an L* of at least 70, thus incorporating inventive features already described. According to the invention, as further explained at page 1, line 26 to page 2, line 2 of the application, although it is possible to add bluing toner to overcome the yellow color caused by the titanium catalyst, this adds to the cost, and reduces the brightness of the polymer, as reflected by a lower L* value. Thus, while the present invention includes the possibility of using toners, advantages of the invention include a reduced need for toners, such that, for example, a suitable L* value may be maintained in practice. These inventive features are described in independent claim 46 just cited.

In yet a further aspect, as set out in independent claim 51, a melt phase process for making a polyester polymer melt phase product is provided that comprises adding an antimony containing catalyst to the melt phase, and polycondensing a melt containing said catalyst in the melt phase until the It.V. of the melt reaches at least 0.75 dL/g. Advantages of these inventive features have already been described.

In contrast with the various aspects of the invention just described, the '221 patent, in contrast, does not even disclose the catalyst system used to prepare the polyesters of the examples, except to state that cobalt, with or without manganese, is required in every instance. The description of a "conventional catalyst" at column 4, lines 19-24 of the '221 patent mentions both antimony and titanium, as well as germanium, zinc, tin, magnesium, and lithium, suggesting at most that all of the metals described are equivalent. However, as already noted, Applicants have determined that they are not.

Because Applicants have clearly demonstrated that the properties of a polyester are dependent upon the catalyst used, as well as the amounts, Applicants respectfully submit that a *prima facie* anticipation rejection based on the '221 patent cannot properly be made.

In order to anticipate a claim under 35 U.S.C. § 102(b), the cited reference must teach every element of the claim, M.P.E.P. § 2131, and if inherency is relied upon, as in the present rejection, the Examiner must provide rationale or evidence tending to show

inherency, M.P.E.P. § 2112, IV. Further, inherency requires that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized. M.P.E.P., § 2112, IV, citing *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Because the '221 patent suggests at most that antimony, titanium, and several other metals are equivalent, but gives no indication what catalyst system was used in the examples, nor the effects the choice of catalyst and the amounts used might have on the polymers, Applicants respectfully submit that the reference does not anticipate the claimed invention, and respectfully submit further that the reference is not enabling, nor would the claimed invention have been obvious in view of the disclosure.

The '221 patent is silent as to the catalyst metals used in the examples, silent as to the effects a given catalyst might have on a resulting polymer, and silent as to the amounts of the metals which should be used, as well as how the amounts used might affect the properties of the resulting polymer. Applicants therefore submit that the reference is not enabling with respect to the present invention.

Applicants further submit that the various aspects of the invention just described would not have been obvious in view of the '221 patent, due to the deficiencies in the '221 patent as already described. Even if one skilled in the art would have been motivated to obtain the invention as presently being claimed, and no such motivation has been cited in the Office Action, the claimed invention could not have been obtained without undue experimentation, due especially to a lack of detailed information as to how the polycondensation described was carried out, as well as the other deficiencies of the reference already described, for example, selecting the proper catalyst and the proper amount in order to achieve an acceptable b* value in a melt phase process, as well as other of the features already cited.

Based on the foregoing, Applicants respectfully submit that the rejection based on the '221 patent is overcome, and respectfully request that it be withdrawn.

In summary, applicant believes the application to be in condition for allowance. Accordingly, the Examiner is respectfully requested to reconsider the rejection, enter the above amendment, and pass the application to issuance.

Respectfully submitted,

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20 December 2006
Date

CERTIFICATE OF MAILING UNDER 37 CFR 1.8(a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Mail Stop Amendment, P. O. Box 1450, Alexandria, VA 22313-1450.

Jodi L. Owenby

12/20/2006
Date